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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,507	12/14/2001	Naoki Tsukiji	214144US8	3570

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EXAMINER

SCHILLINGER, LAURA M

ART UNIT PAPER NUMBER

2813

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/014,507

Applicant(s)

TSUKIJI ET AL.

Examiner

Laura M Schillinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 17-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 40 and 41 is/are rejected.
- 7) ☒ Claim(s) 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the Amendment made on 1/8/04.

Claim Objections

Claim 40 is objected to because of the following informalities: "grafting" should be "grating". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-16, 40-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Mizutani et al ('352).

In reference to claim 1, Mizutani et al teaches a method comprising:

Forming a plurality of semiconductor elements on a wafer such that two adjacent elements define a separation boundary (Col.3, lines: 49-60 and Col.s 9-10 lines: 40-25); and

Providing an integral semiconductor structure across the separation boundary such that the structure is common to the two elements formed on the wafer (Col.6, lines: 49-60 see also Col.s 10-11, lines: 25-10)

Physically separating the two adjacent semiconductor elements approximately at the separation boundary (Fig. 1E (device separation groove) to form discrete semiconductor elements each having a portion of the integral semiconductor structure (Col.10-11, lines: 65-10).

In reference to claim 2, Mizutani et al teaches wherein the forming a plurality of elements comprises forming a plurality of semiconductor laser elements such that two adjacent laser elements define a separation boundary (Col.3, lines: 49-60 and Col.s 9-10 lines: 40-25).

In reference to claim 3, Mizutani et al teaches wherein the forming the plurality of laser elements on the wafer such that the separation boundary is a light emitting facet for each of the two laser elements (Col.s 10-11, lines: 25-10).

In reference to claim 4, Mizutani et al teaches wherein providing an integral structure comprises forming a diffraction grating across the separation boundary such that the diffraction grating is common to the two laser elements formed on the wafer (Col.6, lines: 49-60).

In reference to claim 5, Mizutani et al teaches wherein forming the diffraction grating comprises forming one of a DFB and a DBR (Col.1, lines: 35-50 and Col.14, lines: 30-35).

In reference to claim 6, Mizutani et al teaches wherein providing a structure further comprises forming a light waveguide (Col.10, lines: 55-65).

In reference to claim 7, Mizutani et al teaches wherein the physical separation comprises cleaving the two elements at the separation boundary (Col.11, lines: 1-10).

In reference to claim 8, Mizutani et al teaches further comprising forming a reflective coating on a cleavage plane of a discrete element formed by cleaving (Col.s 14-15, lines: 65-5).

In reference to claim 9, Mizutani et al teaches wherein forming a plurality of laser elements comprises forming elements on the wafer such that the separation boundary is a light reflecting facet for each of the laser elements (Col.s 10-11, lines: 25-10).

In reference to claim 10, Mizutani et al teaches wherein the structure comprises forming a diffraction grating across the separation boundary such that the grating is common to the two laser elements formed on the wafer (Col.6, lines: 49-60).

In reference to claim 11, Mizutani et al teaches wherein forming the diffraction grating comprises one of a DFB and a DBR(Col.1, lines: 35-50 and Col.14, lines: 30-35).

In reference to claim 12, Mizutani et al teaches wherein providing an integral structure further comprises forming a light waveguide (Col.10, lines: 55-65)..

In reference to claim 13, Mizutani et al teaches wherein the physical separation comprises cleaving the two adjacent laser elements at the separation boundary(Col.11, lines: 1-10)..

In reference to claim 14, Mizutani et al teaches further comprising forming a reflective coating on the cleavage plane of a discrete laser element formed by the cleaving (Col.s 14-15, lines: 65-5).

In reference to claim 15, Mizutani et al teaches wherein the providing the structure comprises forming one of a light modulator and a light amplifier (Col.16, lines: 50-55).

In reference to claim 16, Mizutani et al teaches wherein the physical separation comprises cleaving the two adjacent elements at the separation boundary (Col.11, lines: 1-10).

In reference to claim 40, Mizutani et al teaches wherein said providing an integral semiconductor structure comprises providing a partial diffraction grating (Col.3, lines: 30-35).

In reference to claim 41, Mizutani et al teaches wherein said forming a plurality of semiconductor elements comprises forming a semiconductor element configured to emit a light that has a plurality of oscillation longitudinal modes in an oscillation wavelength spectrum (Col.1, lines: 35-55)

Response to Arguments

Applicant's arguments filed 1/8/04 have been fully considered but they are not persuasive. The arguments state that Mizutani et al ('352) fails to teach a physical separation at a

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separation boundary, however this is not persuasive because as shown in Fig. 1e, the manifestation of a physical separation is carried out by the separation groove (111) which is formed by cleaving (Col. 11, lines; 1-10). Therefore Mizutani anticipates the amended claim language.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura M Schillinger whose telephone number is (571) 272-1697. The examiner can normally be reached on M-T, R-F 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LMS

3/20/04


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